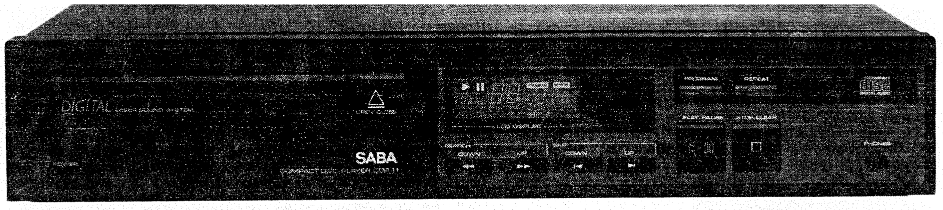
SABA Service-Instruction

HiFi 266

CDP 11

COMPACT DISC PLAYER CDP 11



Wichtige Hinweise

Die Sicherheit des Gerätes muß nach einer Reparatur oder Überprüfung erhalten bleiben. Es dürfen deshalb keine konstruktiven Merkmale des Gerätes sicherheitsmindernd verändert werden (z. B. müssen Abdeckungen ordnungsgemäß angebracht sein).

Ersatzteile müssen hinsichtlich ihrer Daten und ihrer Merkmale dem getauschten Teil entsprechen, damit die Sicherheit des Gerätes nicht vermindert wird. Verwenden Sie deshalb nur Original-Ersatzteile.

Avvisi importanti

La sicurezza dell'apparecchio deve rimanere conservata anche dopo una riparazione o un controllo. Perciò non è permesso di variare connotati costruttivi dell'apparecchio in modo che non garantiscono la sicurezza originaria (p. es. gli schermi di protezione devono essere fissati a regola d'arte).

I pezzi di ricambio devono corrispondere al pezzo da sostituire nei loro dati e nei loro connotati per garantire la stessa sicurezza dell'apparecchio. Usate perciò solo ricambi originali.

Vorsicht

Das Gerät beinhaltet eine Lasercomponente, daher im Servicefall nachfolgende Hinweise unbedingt beachten:

- Das Gerät arbeitet mit unsichtbarer Laserstrahlung. Bei geöffnetem Gerät tritt unterhalb des Plattenhalters Laserstrahlung aus.
- Nicht in den Laserstrahl blicken.
- Hände und reflektierende Gegenstände nicht in den Laserstrahl bringen.
- Laserschutzbrille nach DIN 58215 für die angegebene Wellenlänge tragen.
- Unbeteiligte Personen vom Arbeitsplatz fernhalten.

Important note

The unit must remain safe after repair or checking. Therefore, no design features of the unit may be altered which would result in a reduction of safety (e. g. covers must be properly replaced).

With regards to their data and technical features, spare parts must correspond with the replaced part, so as not to reduce the safety of the unit. Therefore, only use original spare parts.

Recommandations importantes

L'appareil doit remplir les mêmes conditions de sécurité après une réparation ou une révision. Aucune caracteristique de construction de l'appareil ne doit donc être modifiée de telle sorte que la sécurité de l'appareil en soit diminuée (par ex., les couvercles doivent être remis en place correctement).

Les caractéristiques et les propriétés des pièces de rechange doivent coincider avec celles de la pièce qui est remplacée afin de ne pas réduire la sécurité de l'appareil. N'utilisez donc que des pièces de rechange d'origine.

Caution

This CD-player operates with an invisible laser beam. If service is necessary please pay attention to the following notes:

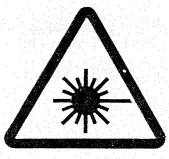
- When the set is open, laser radiation emerges beneath the record holder arm.
- Do not look into beam.
- Do not expose hands or reflecting objects into laser beam.
- Please wear laser protective glasses according to DIN 58215 for mentioned wave length.
- Please keep unconcerned people away from working place.

CLASS 1. LASER PRODUCT
LASER KLASSE 1
APPAREIL A LASER DE CLASSE 1

Informationsetikett auf Geräterückseite.

Explanatory label on rear side.

Laser: λ = 780 nm



CAUTION - INVISIBLE LASER RADIATION WHEN
OPEN AND INTERLOCKS FAILED OR DEFEATED
AVOID EXPOSURE TO BEAM

ATTENTION - RAYONNEMENT LASER INVISIBLE
DANGEREUX EN CAS D'OUVERTURE ET LORSQUE
LA SÉCURITÉ EST NEUTRALISÉE.
EXPOSITION DANGEREUSE AU FAISCEAU.

VORSICHT -UNSICHTBARE LASERSTRAHLUNG.
WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT.
NICHT DEM LASERSTRAHL AUSSETZEN!

Warnetikett innen im Gerät.

Warning label inside the unit.

Ausbauhinweise ·Smontaggio · Disassembly · Démontage

AUSMONTIEREN DER SCHUBLADE Ⓐ

Nach Abmontieren der Frontplatte, Anschlagschraube Ⓑ herausdrehen und durch Drücken der Öffnungstaste « OPEN-CLOSE » die Schublade ausfahren und mit der Hand ganz herausziehen.

Wenn der Schubladenmotor nicht funktioniert s. Abb. 2.

AUSMONTIEREN DES LAUFWERKS

- Die 2 Schrauben herausdrehen (s. Abb. 4).

PLATTENWIEDERGABE OHNE SCHUBLADE

- Netzstecker ziehen, Schublade entfernen und anschließen Welle Ⓒ in Pfeilrichtung bis zu der in Abb. 3a angegebenen Position drehen.
- Platte auflegen Ⓓ und Welle Ⓒ in der anderen Richtung bis zu der in Abb. 3b angegebenen Position drehen.
- Netzstecker wieder einstecken : die Wiedergabe kann nun stattfinden.
- Zur Entnahme der Platte, die Welle Ⓒ betätigen (s. Abb. 3a) um den Gegenhebel Ⓔ anzuheben, dann die Platte abnehmen.

ANBRINGEN DER SCHUBLADE

Netzstecker ziehen, Welle Ⓒ in Position Abb. 3c bringen.

Schublade ganz einschieben, Schraube Ⓑ eindrehen, Netzstecker wieder einstecken.

Wichtiger Hinweis

Der Abtaster mit Optik, Lasereinheit und Photodiode ist hochpräzise justiert und darf nicht zerlegt werden!
Im Falle eines Defektes am Laser, an der Photodiode oder dem Actuator, muß der gesamte Abtaster ausgetauscht werden.
Diese Einheit kann nur komplett beim Hersteller justiert werden.

SMONTAGGIO DEL CASSETTO Ⓐ

Dopo aver smontato il pannello frontale, rimuovere la vite di arresto Ⓑ e quindi premere il tasto di apertura « OPEN-CLOSE » per far avanzare il cassetto. Completare l'operazione estraendo il cassetto a mano.

Se il motore del cassetto no funziona, consultare la fig. 2.

RIMOZIONE DELL'INSIEME MECCANICHE

- Togliere la 2 viti (fig. 4).

LETTURA DEL DISCO SENZA CASSETTO

- Staccare l'apparecchio dalla rete di alimentazione. Dopo aver estratto il cassetto, ruotare la camma Ⓒ nel senso della freccia, fino alla posizione indicata in fig. 3a.
- Disporre il disco sulla puleggia Ⓓ , quindi ruotare la camma Ⓒ nel senso opposto, fino alla posizione indicata in fig. 3b.
- Ripristinare l'alimentazione di rete. A questo punto, la lettura del disco puo' iniziare.
- Per togliere il disco, manovrare la camma (vedi fig. 3a) per alzare il braccio contro-leva Ⓔ , e liberare il disco.

REINSERIMENTO DEL CASSETTO

Dopo aver staccato l'apparecchio dalla rete di alimentazione, portare la camma Ⓒ nella posizione indicata dalla fig. 3c.

Far scivolare il cassetto fino alla posizione di fine corsa.

Rimontare la vite Ⓑ . Ripristinare l'alimentazione di rete.

Consiglio importante

Il sistema di lettura con suo sistema ottico ha una registrazione di alta precisione e non deve essere smontata.
In caso di un difetto del laser, del fotodiodo o dell'actuator si deve cambiare tutta l'unità del fotofonorivelatore.
Quest' unità può essere registrata soltanto dal fabbricante e solo per intero.

DISMANTLING THE TRAY ASSEMBLY Ⓐ

After dismantling the front panel, take off the tray stopper screw Ⓑ , press the « OPEN-CLOSE » button to begin removing the tray, and pull it out.

If the loading motor doesn't rotate (see fig. 2).

REMOVING MECANICAL ASSEMBLY

- Remove the 2 screws (see fig. 4).

PLAYING A C.D. WITHOUT TRAY ASSEMBLY

- Unplug the unit, take off the tray assembly, turn the main gear Ⓒ in direction of the arrow up to the position indicated in fig. 3a.
- Put the C.D. on the turntable Ⓓ and turn the main gear Ⓒ in the other direction up to the position indicated in fig. 3b.
- Reconnect the unit at the mains. Playback can now occur.
- To take off the C.D. move the main gear (see fig. 3a) so as to raise the counterlever Ⓔ and disengage the C.D.

REPLACING THE TRAY ASSEMBLY

Unplug the unit, put the main gear Ⓒ in position fig. 3c.

Slide the tray fully in, replace screw Ⓑ . Reconnect the unit at a mains outlet.

Important note

The pick up system with the optical and laser units is aligned and adjusted precisely and may in no case be disassembled!
In case of failure of the laser, the photo diodes or the optic scanner, the assembly must be replaced.
This assembly can only be adjusted in the factory.

DEMONTAGE DU TIROIR Ⓐ

Après avoir démonté la façade, enlever la vis de butée Ⓑ puis appuyer sur la touche d'ouverture « OPEN-CLOSE » pour faire avancer le tiroir et finir de l'extraire en le tirant à la main.

Si le moteur chariot ne fonctionne pas : voir fig. 2.

DEPOSE DE LA MECANIQUE

- Enlever les 2 vis (voir fig. 4).

LECTURE DU DISQUE SANS LE TIROIR

- Appareil débranché, après avoir sorti le tiroir, tourner la came Ⓒ dans le sens de la flèche et jusqu'à la position indiquée fig. 3a.
- Placer le disque sur sa poulie Ⓓ puis tourner la came Ⓒ - dans l'autre sens et jusqu'à la position indiquée fig. 3b.
- Rebrancher l'appareil. La lecture peut s'effectuer.
- Pour enlever le disque manœuvrer la came (voir fig. 3a) pour lever le bras contre levier Ⓔ puis dégager le disque.

REMISE EN PLACE DU TIROIR

Appareil débranché, amener la came Ⓒ en position fig. 3c.

Glisser le tiroir jusqu'en fin de course. Remonter la vis Ⓑ . Rebrancher l'appareil.

Remarque importante

Le bloc optique avec l'optique et les unités laser est ajusté avec une très grande précision et ne doit jamais être démonté.
En cas de panne du laser, des photodiodes ou du lecteur optique l'ensemble doit être remplacé.
Cet ensemble ne peut être réglé qu'en usine.

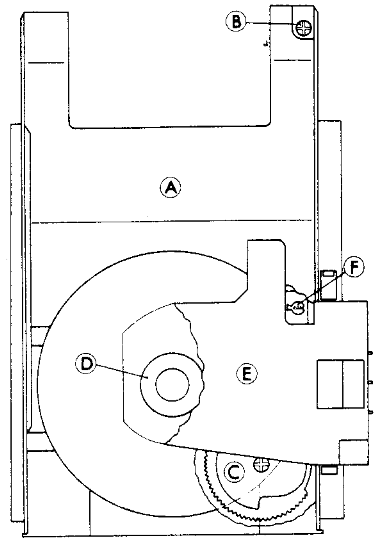


Fig. 1

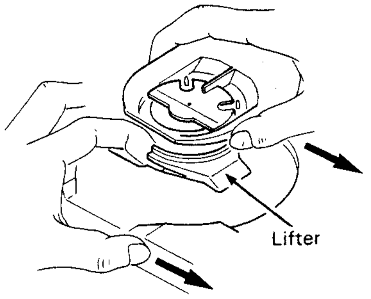


Fig. 2

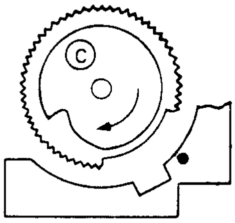


Fig. 3a

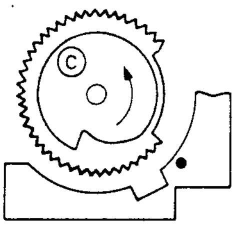


Fig. 3b

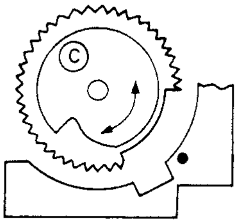


Fig. 3c

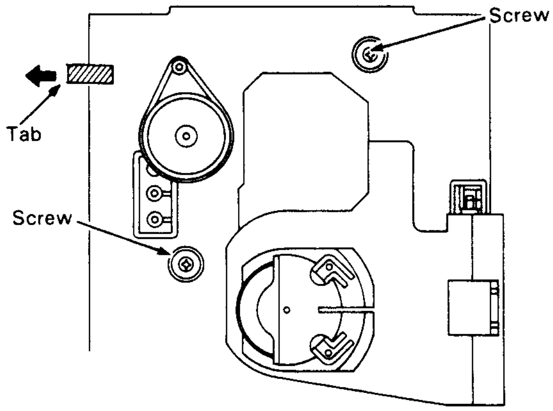
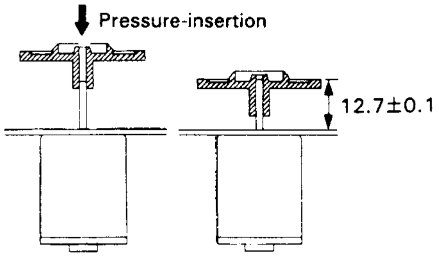
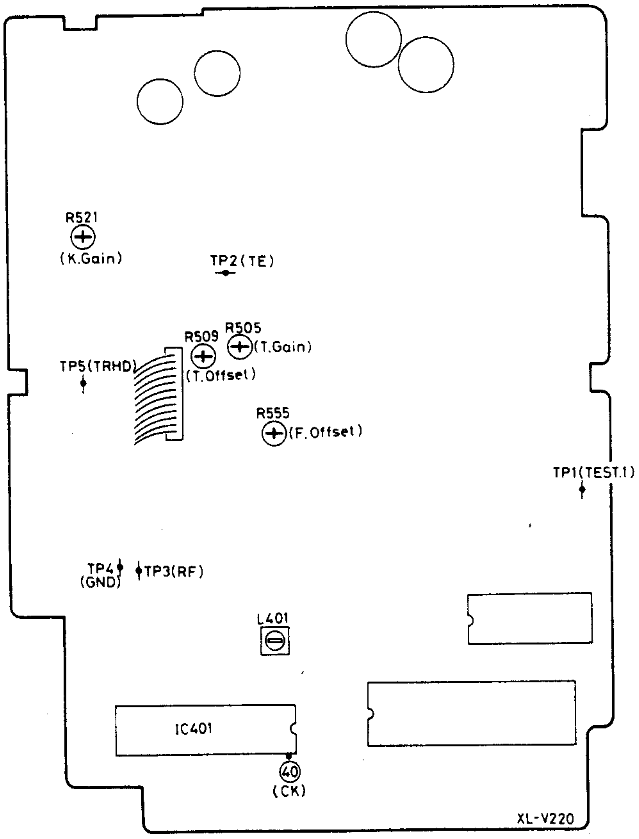

Screw
Tab
Screw

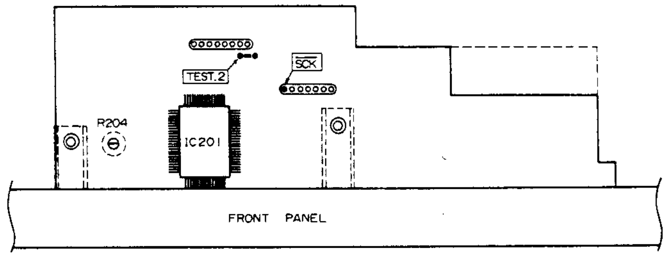
Fig. 4

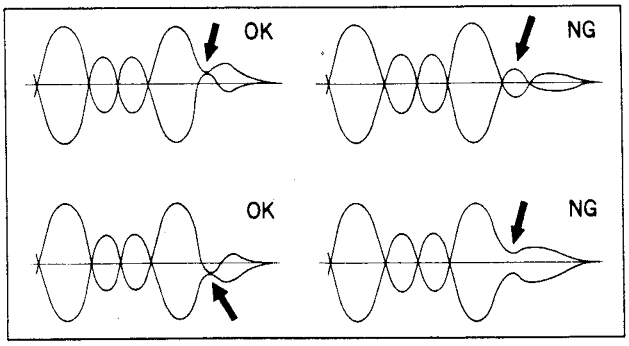
Plattenteller-Montage · Montaggio del piatto giradischi
Turntable insertion · Insertion poulie moteur disque


Pressure-insertion
12.7±0.1

Abgleichlageplan · Posizione regolatori di servicio · Positionsplan for alignment Plan de position d'alignement


R521
(K.Gain)
TP2(TE)
R509
R505
(T.Gain)
TP5(TRHD)
(T.Offset)
R555
(F.Offset)
TP1(TEST.1)
TP4
(GND)
TP3(RF)
L401
IC401
40
(CK)
XL-V220


TEST.2
SCK
R204
IC201
FRONT PANEL



0.2 ms/div. 0.5 V/div.

Fig. 5

Abgleichanleitung · Istruzioni di taratura · Alignment Instructions · Instructions d'alignement

LASER OUTPUT

▷	Kontrollieren Verificare Check Contrôle	TP3 ∿	Vpp > 1,7 V *

PLL FREERUN (Battement libre du PLL)

☐ TP3 ⌒ ⊥	L401	IC401 pin 40 Hz	F = 4,322 ± 0,001 MHz

CLOCK FREQUENCY (Fréquence d'horloge)

☐ 1. TEST 2 ⌒ ⊥ 2. POWER ON (Reset)	R204	SCK ① FW201 Hz	F = 200 kHz ± 4 kHz

Y AXIS

▷	Schraube Vite Screw Vis Ⓕ (fig. 1)	TP3 ∿	V maximum

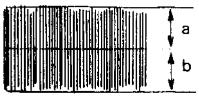
FOCUS SERVO OFFSET

▷	R555	TP3 ∿	V maximum

TRACKING SERVO GAIN

▷ TP1 ⌒ ⊥	R505	TP2 ∿	V = 2 Vpp

TRACKING SERVO OFFSET

▷ TP1 ⌒ ⊥	R509	TP2 ∿	 a = b

KICK GAIN

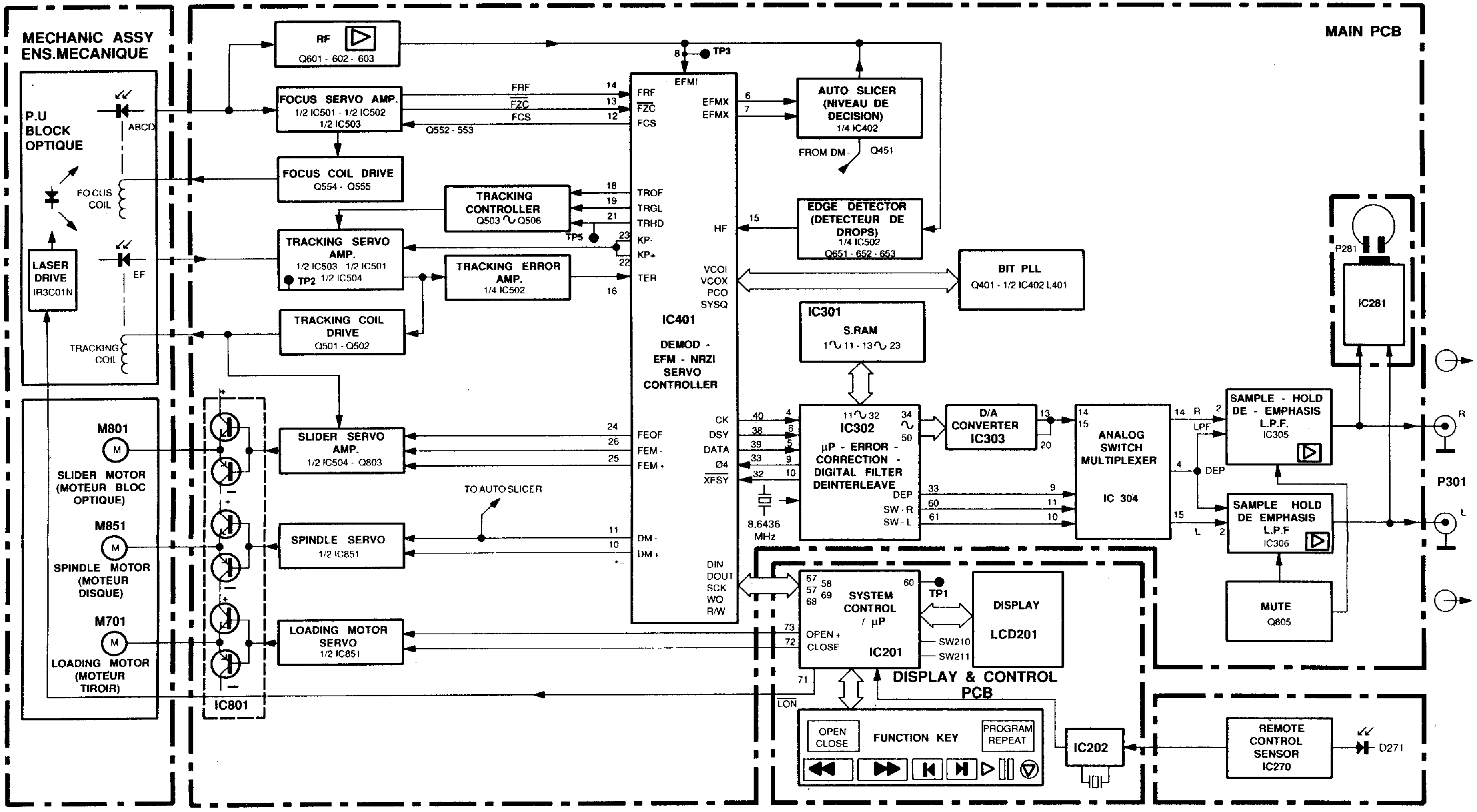
▷ ⇒ ▯▯ - Die letzte Nummer der CD-Platte abspielen - Riprodurre l'ultimo titolo della «CD» - Play the last number recorded - Lire le dernier morceau du disque	VR521	CH1 TP2 CH2 TP5 ∿	- CH 1 betrachten (getriggert durch CH 2) - Riprodurre canale 1 (CH 1) ed eccitare con il canale 2 - Observe CH 1 triggered by CH 2 - Visualiser CH 1 synchro par CH 2

▷	☐	▯▯	⫯	⊥	∿	Hz	⌒
Play normal disc	Stop	Pause	Test point	GND	Oscilloscop	Frequency Meter	Kurzschluß Court-circuit · Short

*

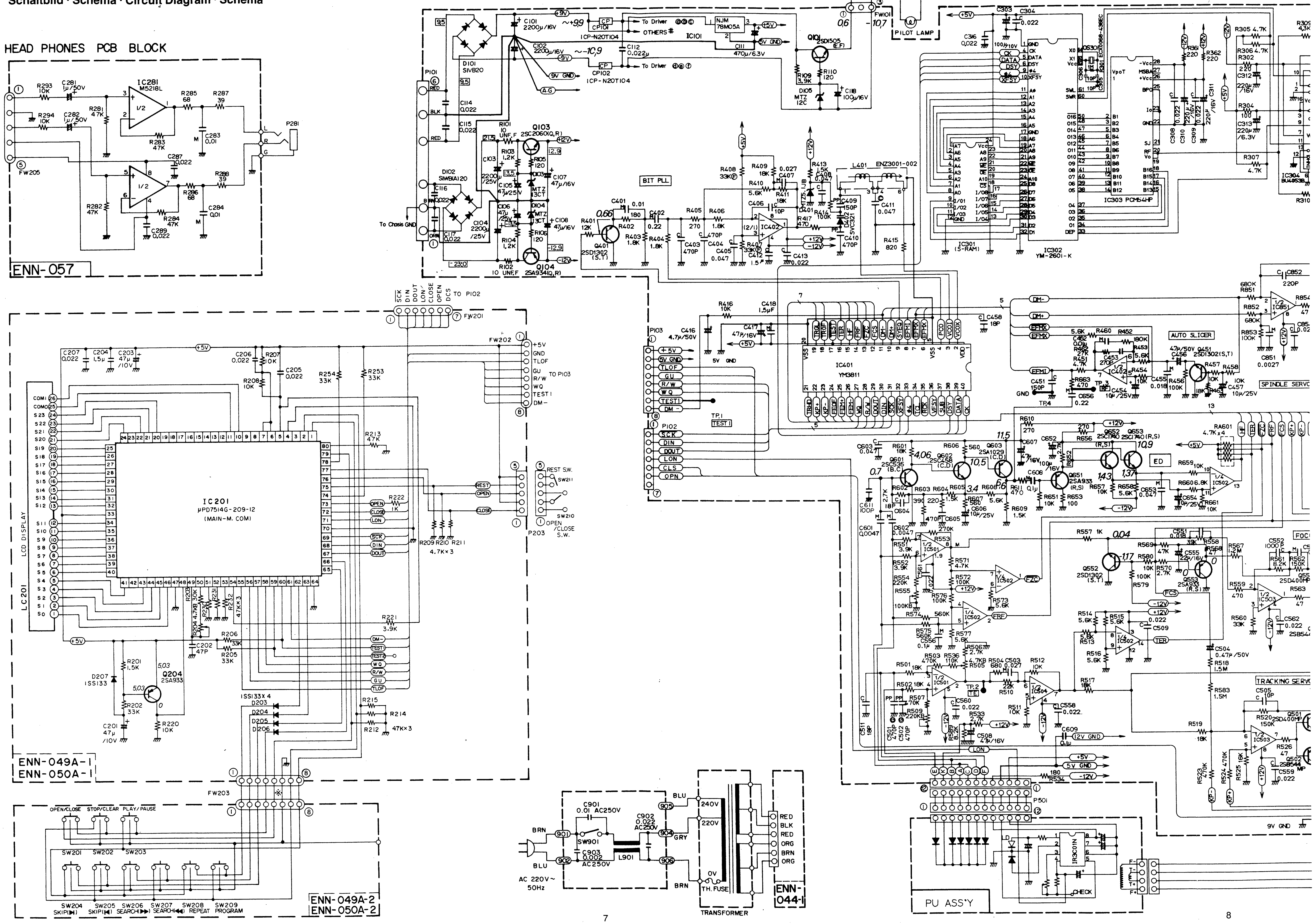
- Wenn $V_{ss} < 1{,}7$ V ist, ist die Laser-Diode defekt. Den Trimmwiderstand auf der Laser-Platte nicht einstellen (Fabrikeinstellung).
- Se $V_{pp} < 1{,}7$ V il diodo Laser è difettoso. No rettificare la resistenza regolabile sulla piastra Laser (Regolato in fabbrica).
- IF $V_{pp} < 1.7$ V Laser diode is considered defective. Don't touch the semifixed resistor on the pick up P.C.B. (adjusted by manufacturer).
- Si $V_{pp} < 1{,}7$ V la diode Laser est défectueuse. Ne pas toucher la résistance ajustable sur la platine Laser (Réglage d'usine).

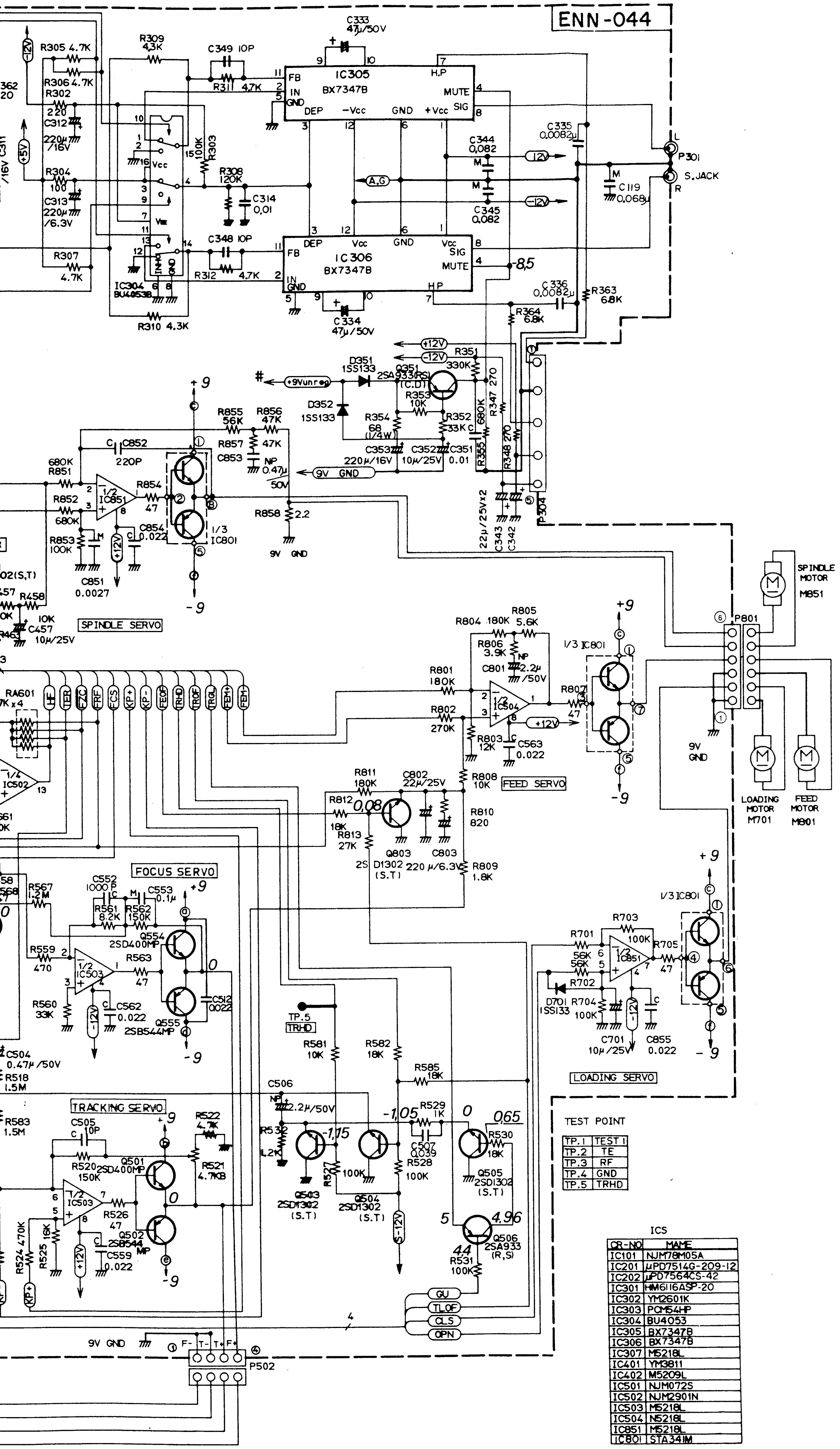
Blockschaltbild · Schema a blocchi · Block Diagram · Schéma synoptique


MECHANIC ASSY
ENS.MECANIQUE
P.U
BLOCK
OPTIQUE
ABCD
FOCUS COIL
EF
LASER DRIVE IR3C01N
TRACKING COIL
M801
SLIDER MOTOR (MOTEUR BLOC OPTIQUE)
M851
SPINDLE MOTOR (MOTEUR DISQUE)
M701
LOADING MOTOR (MOTEUR TIROIR)
IC801
MAIN PCB
RF Q601 - 602 - 603
FOCUS SERVO AMP. 1/2 IC501 - 1/2 IC502 1/2 IC503
Q552 - 553
FOCUS COIL DRIVE Q554 - Q555
TRACKING CONTROLLER Q503 ∿ Q506
TRACKING SERVO AMP. 1/2 IC503 - 1/2 IC501 1/2 IC504
TP2
TP5
TRACKING ERROR AMP. 1/4 IC502
TRACKING COIL DRIVE Q501 - Q502
SLIDER SERVO AMP. 1/2 IC504 - Q803
SPINDLE SERVO 1/2 IC851
LOADING MOTOR SERVO 1/2 IC851
TO AUTO SLICER
FRF
FZC
FCS
TP3
EFMI
EFMX
TROF
TRGL
TRHD
KP-
KP+
TER
HF
VCOI
VCOX
PCO
SYSQ
IC401
DEMOD - EFM - NRZI SERVO CONTROLLER
FEOF
FEM-
FEM+
DM-
DM+
CK
DSY
DATA
Ø4
XFSY
DIN
DOUT
SCK
WQ
R/W
AUTO SLICER (NIVEAU DE DECISION) 1/4 IC402
FROM DM-
Q451
EDGE DETECTOR (DETECTEUR DE DROPS) 1/4 IC502 Q651 - 652 - 653
BIT PLL Q401 - 1/2 IC402 L401
IC301 S.RAM 1∿11 - 13∿23
IC302 µP - ERROR - CORRECTION - DIGITAL FILTER DEINTERLEAVE
DEP
SW - R
SW - L
8,6436 MHz
D/A CONVERTER IC303
ANALOG SWITCH MULTIPLEXER IC 304
SAMPLE - HOLD DE - EMPHASIS L.P.F. IC305
SAMPLE HOLD DE EMPHASIS L.P.F IC306
LPF
MUTE Q805
P281
IC281
P301
R
L
DISPLAY & CONTROL PCB
SYSTEM CONTROL / µP IC201
OPEN + CLOSE -
TP1
SW210
SW211
LON
DISPLAY LCD201
OPEN CLOSE
FUNCTION KEY
PROGRAM REPEAT
IC202
REMOTE CONTROL SENSOR IC270
D271

CK	:	Takt clock horloge
DEP	:	Deemphasis-Steuerung emphasis control commande de filtre B.F.
DSY	:	Datensynchronisierung data synchro synchro de données
CLS	:	Schublade geschlossen tray close tiroir fermé
DIN	:	Dateneingang data in entrée de données
DOUT	:	Datenausgang data out sortie de données
DM$^+$/$_-$	:	Disc-Motor PWM-Steuersignal spindle motor control commande du moteur disque
EFMI	:	EFM Signaleingang EFM signal in entrée signal non démod. EFM
EFMX	:	EFM-Signalausgang EFM signal out sortie signal non démod. EFM
FEM$^+$/$_-$	:	Schlittenmotor Schnellgang-Steuersignal high speed slider motor control commande rapide du moteur du bloc optique
FEOF	:	Schlittenmotor-Abschaltung slider error correction off arrêt de correction moteur bloc optique
FRF	:	Focus-Fehlersignal focus retraction signal d'erreur de focalisation
FZC	:	Focus Nulldurchgang focus zero cross
FCS	:	Focus-Regelung aus focus signal signal de correction de focus
KP$^+$/$_-$	:	Spurwechsel-Impulse kick pulse impulsions de tracking
LON	:	Laser ein Lazer on allumage Laser
OPN	:	Schublade offen tray open tiroir ouvert
Ø 4	:	4.328 MHz
TER	:	Spurfehlersignal tracking error signal signal d'erreur de tracking
TRHD	:	Spurregelung während Spurwechsel tracking hold by the µP correction de tracking par le µP pendant KP
TRGL	:	Abschwächung Spurregel-Verstärkung tracking gain low atténuation de la correction de tracking
TROF	:	Spurregelung aus tracking off arrêt de la correction d'erreur
SYSQ	:	Synchronisierung Q-Kanal channel Q synchro synchro du mot Q
XFSY	:	Frame-Synchronisierung 7,35 kHz trame synchro 7.35 kHz synchro trame 7,35 kHz

Schaltbild · Schema · Circuit Diagram · Schéma


HEAD PHONES PCB BLOCK
IC281 M5218L
FW205
P281
ENN-057
D101 SIVB20
D102 SIWB(A)20
IC101 NJM 78M05A
Q101 2SD1505(E,F)
D105 MTZ 12C
FW101
PILOT LAMP
Q103 2SC2060(Q,R)
Q104 2SA934(Q,R)
ICP-N20T104
To Driver
OTHERS
To Chasis GND
P101
BIT PLL
Q401 2SD1302 (S,T)
IC402
L401 ENZ3001-002
D401 SVC321
IC301 (S-RAM)
IC302 YM-2601-K
IC303 PCM54HP
IC304 BU4053B
IC401 YM3811
IC851
AUTO SLICER
Q451 2SD1302(S,T)
SPINDLE SERVO
P103
TP.1 TEST1
P102
Q601 2SC535 (B,C)
Q602 2SC458 (C,D)
Q603 2SA1029 (C,D)
Q651 2SA933 (R,S)
Q652 2SC1740 (R,S)
Q653 2SC1740 (R,S)
RA601 4.7K×4
ED
IC501
IC502
IC503
IC504
Q552 2SD1302 (S,T)
Q553 2SA933 (R,S)
FOCUS
TRACKING SERVO
Q501 2SD400MP
Q502 2SB544MP
P501
PU ASS'Y
IR3C01N
CHECK
9V GND
FW201
FW202
TO P102
TO P103
IC201 μPD7514G-209-12 (MAIN-M. COM)
LC201 LCD DISPLAY
Q204 2SA933
D207 1SS133
D203 D204 D205 D206 1SS133×4
R209 R210 R211 4.7K×3
P203
REST SW.
SW211
SW210 OPEN /CLOSE S.W.
ENN-049A-1
ENN-050A-1
FW203
OPEN/CLOSE
STOP/CLEAR
PLAY/PAUSE
SW201 SW202 SW203
SW204 SKIP(▶▶|)
SW205 SKIP(|◀◀)
SW206 SEARCH(▶▶)
SW207 SEARCH(◀◀)
SW208 REPEAT
SW209 PROGRAM
ENN-049A-2
ENN-050A-2
SW901
L901
AC 220V~ 50Hz
BRN BLU GRY
240V 220V 0V
TH. FUSE
TRANSFORMER
RED BLK RED ORG BRN ORG
ENN-044-1


ENN-044
IC305 BX7347B
IC306 BX7347B
IC304 BU4053B
C333 47μ/50V
C334 47μ/50V
C349 10P
C348 10P
R309 4.3K
R310 4.3K
R311 4.7K
R312 4.7K
R305 4.7K
R306 4.7K
R302 220
R303 100K
R304 100
R307 4.7K
R308 120K
C312 220μ/16V
C313 220μ/6.3V
C314 0.01
C335 0.0082μ
C336 0.0082μ
C344 0.082
C345 0.082
C119 0.068μ
R363 6.8K
R364 6.8K
P301
S.JACK
A.G
+12V
-12V
+9Vunreg
D351 1SS133
D352 1SS133
Q351 2SA933(RS) (C.D)
R351 330K
R352 33K
R353 10K
R354 68 (1/4W)
R355 680K
R347 270
R348 270
C353 220μ/16V
C352 10μ/25V
C351 0.01
C343 C342 22μ/25Vx2
P304
9V GND
+9
-9
R855 56K
R856 47K
R857 47K
C852 220P
C853 NP 0.47μ 50V
R851 680K
R852 680K
R853 100K
R854 47
R858 2.2
C851 0.0027
C854 0.022
1/2 IC851
1/3 IC801
SPINDLE SERVO
SPINDLE MOTOR M851
LOADING MOTOR M701
FEED MOTOR M801
P801
R804 180K
R805 5.6K
R806 3.9K
C801 NP 2.2μ/50V
R801 180K
R802 270K
R803 12K
R807 47
C563 0.022
1/2 IC504
1/3 IC801
R808 10K
FEED SERVO
R811 180K
C802 22μ/25V
R812 18K
R813 27K
R810 820
R809 1.8K
Q803 2SD1302 (S.T)
C803 220μ/6.3V
RA601
IC502
HF TER FZC FRF FCS KP+ KP- FEOF THD TROF TRQL FEM+ FEM-
FOCUS SERVO
C552 1000P
C553 0.1μ
R567 1.2M
R561 8.2K
R562 150K
Q554 2SD400MP
Q555 2SB544MP
R559 470
R560 33K
R563 47
1/2 IC503
C562 0.022
C512 0.022
C504 0.47μ/50V
R518 1.5M
R583 1.5M
TRACKING SERVO
C505 10P
R520 150K
Q501 2SD400MP
Q502 2SB544MP
R522 4.7K
R521 4.7KB
R526 47
C559 0.022
R524 470K
R525 16K
KP+
TP.5 TRHD
R581 10K
R582 18K
R585 18K
C506 NP 2.2μ/50V
R529 1K
C507 0.039
R528 100K
R530 18K
R527 100K
R531 100K
Q503 2SD1302 (S.T)
Q504 2SD1302 (S.T)
Q505 2SD1302 (S.T)
Q506 2SA933 (R,S)
S-12V
GU TLOF CLS OPN
LOADING SERVO
R701 56K
R702 56K
R703 100K
R704 100K
R705 47
D701 1SS133
1/2 IC851
1/3 IC801
C701 10μ/25V
C855 0.022
P502
F- T- T+ F+
9V GND
-8.5
-1.05
-1.15
0.08
0.65
4.96

TEST POINT

TP.1	TEST 1
TP.2	TE
TP.3	RF
TP.4	GND
TP.5	TRHD

ICS

CR-NO	MAME
IC101	NJM78M05A
IC201	μPD7514G-209-12
IC202	μPD7564CS-42
IC301	HM6116ASP-20
IC302	YM2601K
IC303	PCM54HP
IC304	BU4053
IC305	BX7347B
IC306	BX7347B
IC307	M5218L
IC401	YM3811
IC402	M5209L
IC501	NJM072S
IC502	NJM2901N
IC503	M5218L
IC504	N5218L
IC851	M5218L
IC801	STA341M

IC402	▷	□
1	0,01	0,01
2	2,52	2,52
3	2,51	2,51
4	– 12,9	– 12,9
5	2,47	2,2
6	2,47	2,2
7	2,17	2,2
8	12,9	12,9

IC503	▷	□
1	– 0,75	0,57
2	0	0
3	0	0
4	– 12,9	– 12,9
5	0	0
6	0	0
7	0	0
8	12,9	12,9

IC801	▷	□
1	9,6	10,2
2	1,48	0,57
3	1,2	0,01
4	0	0
5	– 10,6	– 10,8
6	0	0
7	0,5	0
8	0,9	0,03

IC501	▷	□
1	12,9	12,9
2	0,01	0
3	1,93	0
4	1,93	0
5	– 12,9	– 12,9
6	0,01	0
7	0,01	0
8	0,04	0
9	12,9	12,9

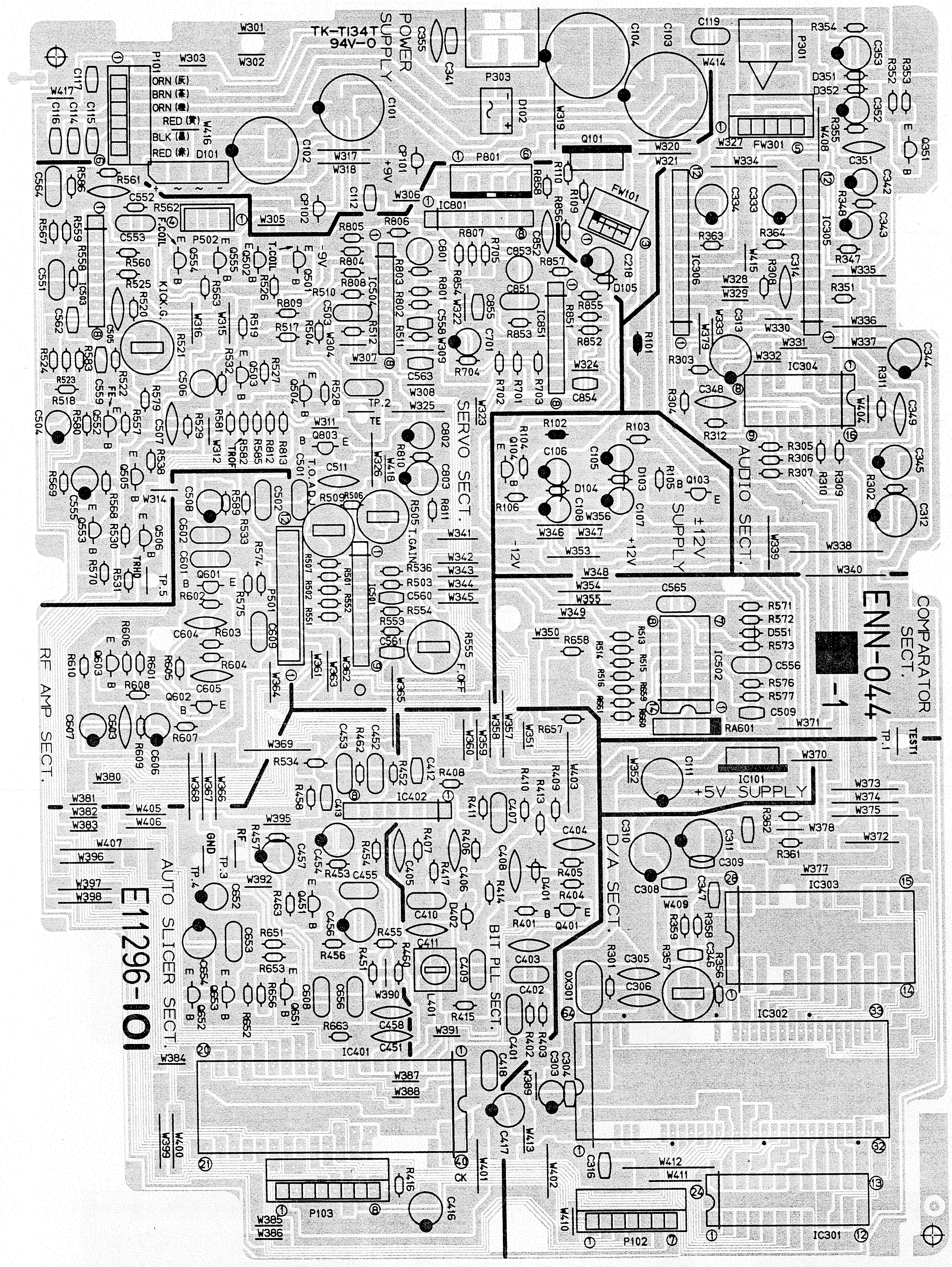
IC504	▷	□
1	1,23	0
2	0,07	0
3	0,07	0
4	– 12,9	– 12,9
5	0	0
6	0	0
7	0	0
8	12,9	12,9

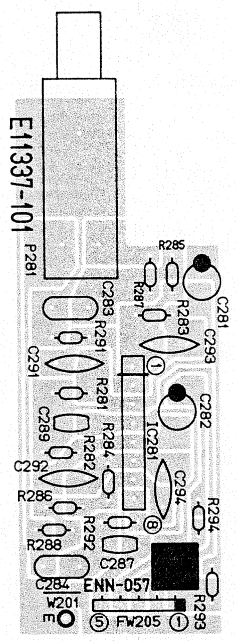
IC851	▷	□
1	1,5	0,57
2	0,05	0
3	0,05	0
4	– 12,9	– 12,9
5	0	0
6	0	0
7	0	0
8	12,9	12,9

IC502	▷	□
1	5	5
2	4,9	0,1
3	12,9	12,9
4	0,7	0,7
5	1,22	0,02
6	0	0
7	0,62	0,58
8	6,46	6,47
9	6,4	6,41
10	1,37	0,11
11	0,85	0,07
12	0	0
13	0,1	0,09
14	2,26	0,1

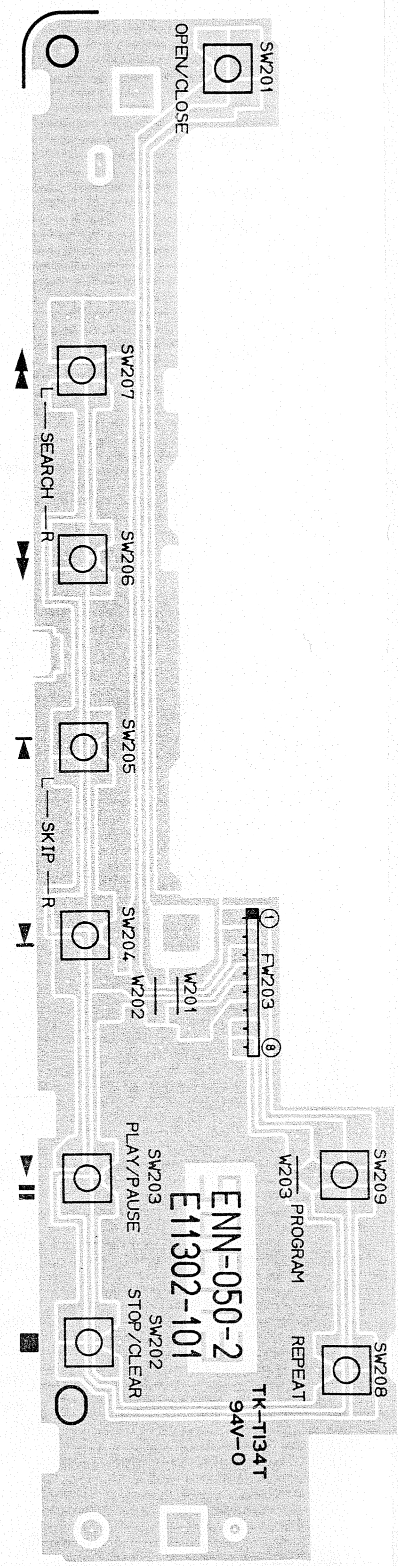
Gedruckte Schaltung · Piastra stampate · Printed circuit · Circuit imprimé

Bauteileseite · Lato componenti · Component side · Côté composants

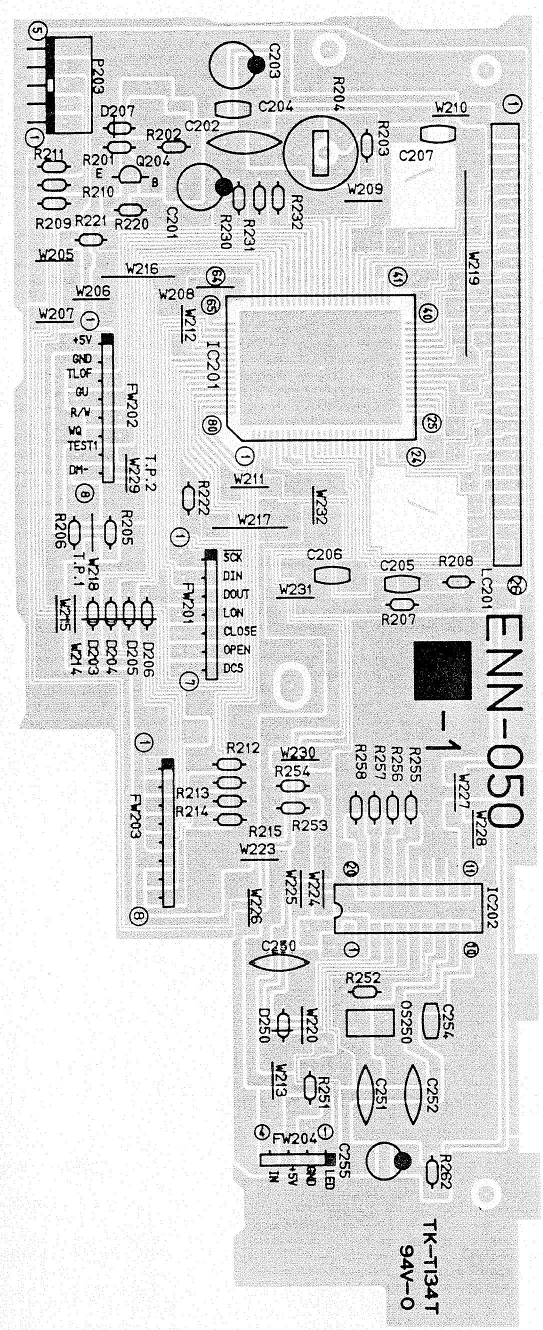

TK-T134T
94V-0
POWER SUPPLY
P101
ORN
BRN
ORN
RED
BLK
RED
D101
P303
D102
Q101
P301
FW301
P801
IC801
FW101
IC305
IC306
IC304
SERVO SECT.
AUDIO SECT.
±12V SUPPLY
+12V
-12V
COMPARATOR SECT.
ENN-044-1
TEST1
TP.1
TP.2
TP.5
RF AMP SECT.
IC502
RA601
IC501
IC101
+5V SUPPLY
IC402
D/A SECT.
IC303
BIT PLL SECT.
AUTO SLICER SECT.
E11296-101
IC401
IC302
P103
P102
IC301
CK


E11337-101
P281
IC281
ENN-057
FW205
W201

Kopfhörerbuchse
Piastra presa per cuffia
Headphone jack PCB
Platine prise casque

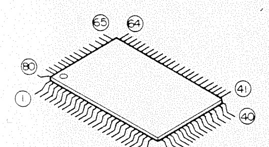

OPEN/CLOSE
SW201
SW207
SEARCH
L
R
SW206
SW205
SKIP
SW204
W202
W201
FW203
SW203
PLAY/PAUSE
W203
PROGRAM
SW209
ENN-050-2
E11302-101
SW202
STOP/CLEAR
REPEAT
SW208
TK-T134T
94V-0

Tastenplatte
Piastra selettore di funzioni
Function switch PCB
Platine selecteur de fonctions

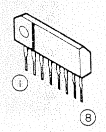

P203
IC201
FW202
FW201
FW203
IC202
FW204
ENN-050-1
TK-T134T
94V-0
D250
Q250

Anzeigen-Platte
Piastra indicatore
Display PCB
Platine afficheur

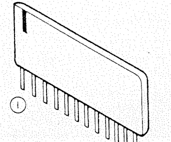
IC201
(µPD7514G-209-12)



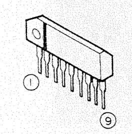
IC270, IC402
IC503, IC504
IC851
(SIP)



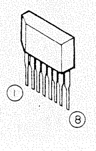
IC305, IC306



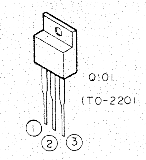
IC501
(SIP)



IC801

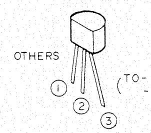


TRANSISTOR


Q101
(TO-220)
①
②
③

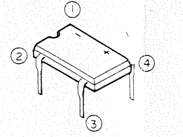
① BASE
② COLLECTOR
③ EMITTER

TRANSISTOR


OTHERS
(TO-92
-92L)
①
②
③

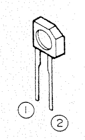
① EMITTER
② COLLECTOR
③ BASE

D101, D102



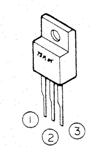
① OUT-
② AC
③ AC
④ OUT+

PHOTO DIODE
D201



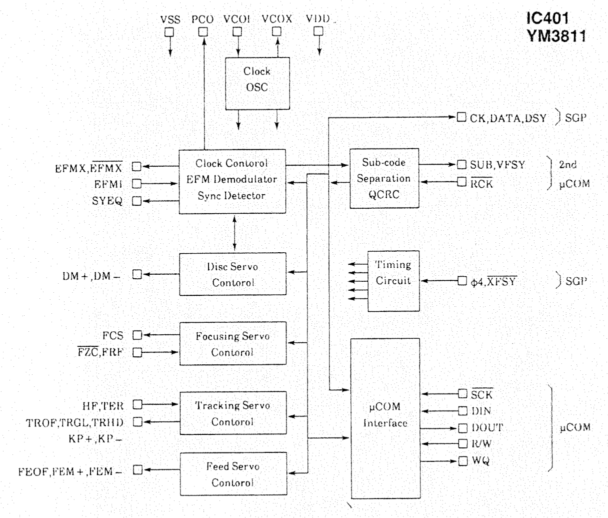
① CATHODE
② ANODE

IC101
(78M05)

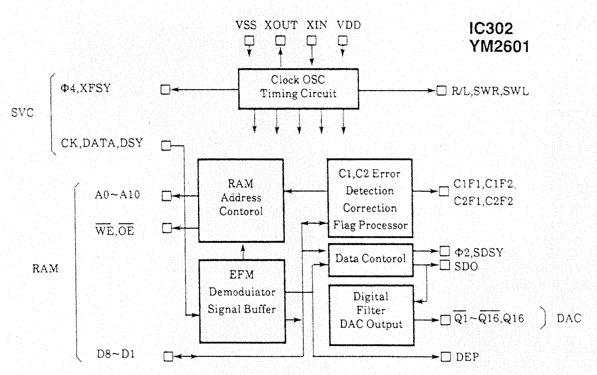


① IN
② GND
③ OUT (5V)

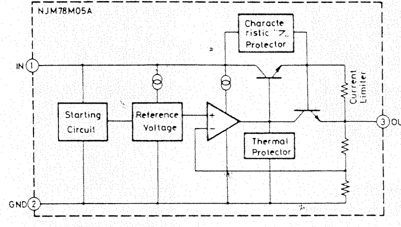
IC401 YM3811


VSS PCO VCOI VCOX VDD
Clock OSC
Clock Contorol EFM Demodulator Sync Detector
Sub-code Separation QCRC
CK,DATA,DSY
SGP
SUB,VFSY
RCK
2nd μCOM
EFMX,EFMX
EFMI
SYEQ
Disc Servo Contorol
DM+,DM−
Timing Circuit
φ4,XFSY
FCS
FZC,FRF
Focusing Servo Contorol
HF,TER
TROF,TRGL,TRHD
KP+,KP−
Tracking Servo Contorol
μCOM Interface
SCK
DIN
DOUT
R/W
WQ
μCOM
FEOF,FEM+,FEM−
Feed Servo Contorol

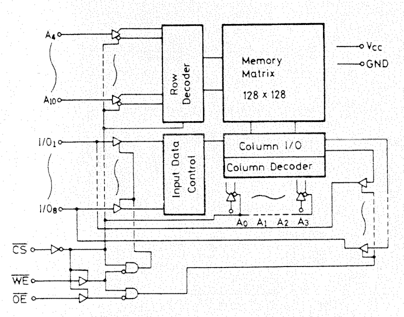
IC302 YM2601


VSS XOUT XIN VDD
SVC
φ4,XFSY
CK,DATA,DSY
Clock OSC Timing Circuit
R/L,SWR,SWL
RAM
A0~A10
WE,OE
D8~D1
RAM Address Contorol
C1,C2 Error Detection Correction Flag Processor
C1F1,C1F2, C2F1,C2F2
Data Contorol
φ2,SDSY
SDO
EFM Demodulator Signal Buffer
Digital Filter DAC Output
Q1~Q16,Q16
DAC
DEP

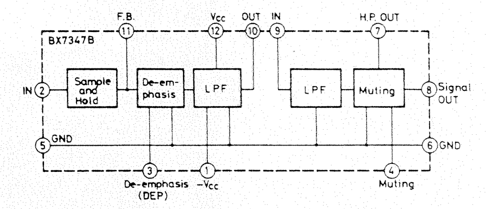
IC101 Voltage Regulator


NJM78M05A
IN ①
Characteristic Protector
Starting Circuit
Reference Voltage
Thermal Protector
Current Limiter
③ OUT
GND ②

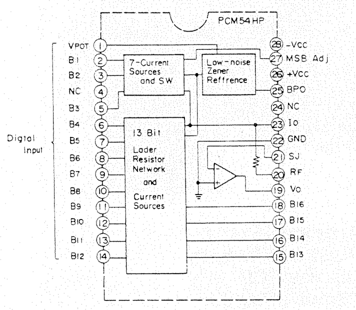
IC301 Static RAM


A4
A10
Row Decoder
Memory Matrix 128 x 128
Vcc
GND
I/O1
I/O8
Input Data Control
Column I/O
Column Decoder
A0 A1 A2 A3
CS
WE
OE

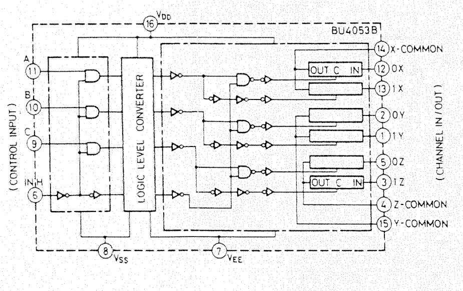
IC305/306 LPF


BX7347B
F.B.
Vcc
OUT
IN
H.P.OUT
IN
Sample and Hold
De-emphasis
LPF
LPF
Muting
Signal OUT
GND
GND
De-emphasis (DEP)
−Vcc
Muting

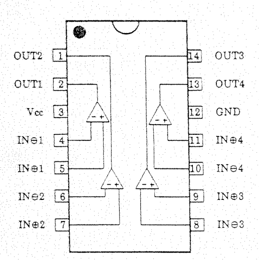
IC303 Digital Analogic Converter


PCM54HP
VPOT
B1
B2
NC
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
Digital Input
7-Current Sources and SW
Low-noise Zener Reffrence
13 Bit Lader Resistor Network and Current Sources
−Vcc
MSB Adj
+Vcc
BPO
NC
Io
GND
SJ
RF
Vo
B16
B15
B14
B13

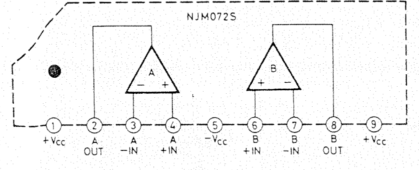
IC304 Analog. Switch Multiplexer


BU4053B
Vdd
A
B
C
INH
(CONTROL INPUT)
LOGIC LEVEL CONVERTER
OUT C IN
X-COMMON
0X
1X
0Y
1Y
0Z
1Z
Z-COMMON
Y-COMMON
(CHANNEL IN/OUT)
Vss
VEE

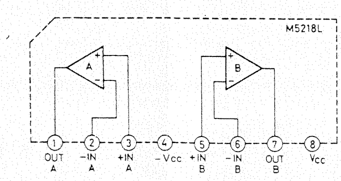
IC502 Quad. Comparator


OUT2
OUT1
Vcc
IN⊖1
IN⊕1
IN⊖2
IN⊕2
OUT3
OUT4
GND
IN⊕4
IN⊖4
IN⊕3
IN⊖3

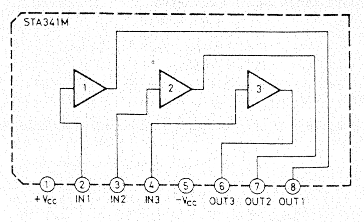
IC501 Dual op. Amp.


NJM072S
A
B
+Vcc
A OUT
A −IN
A +IN
−Vcc
B +IN
B −IN
B OUT
+Vcc

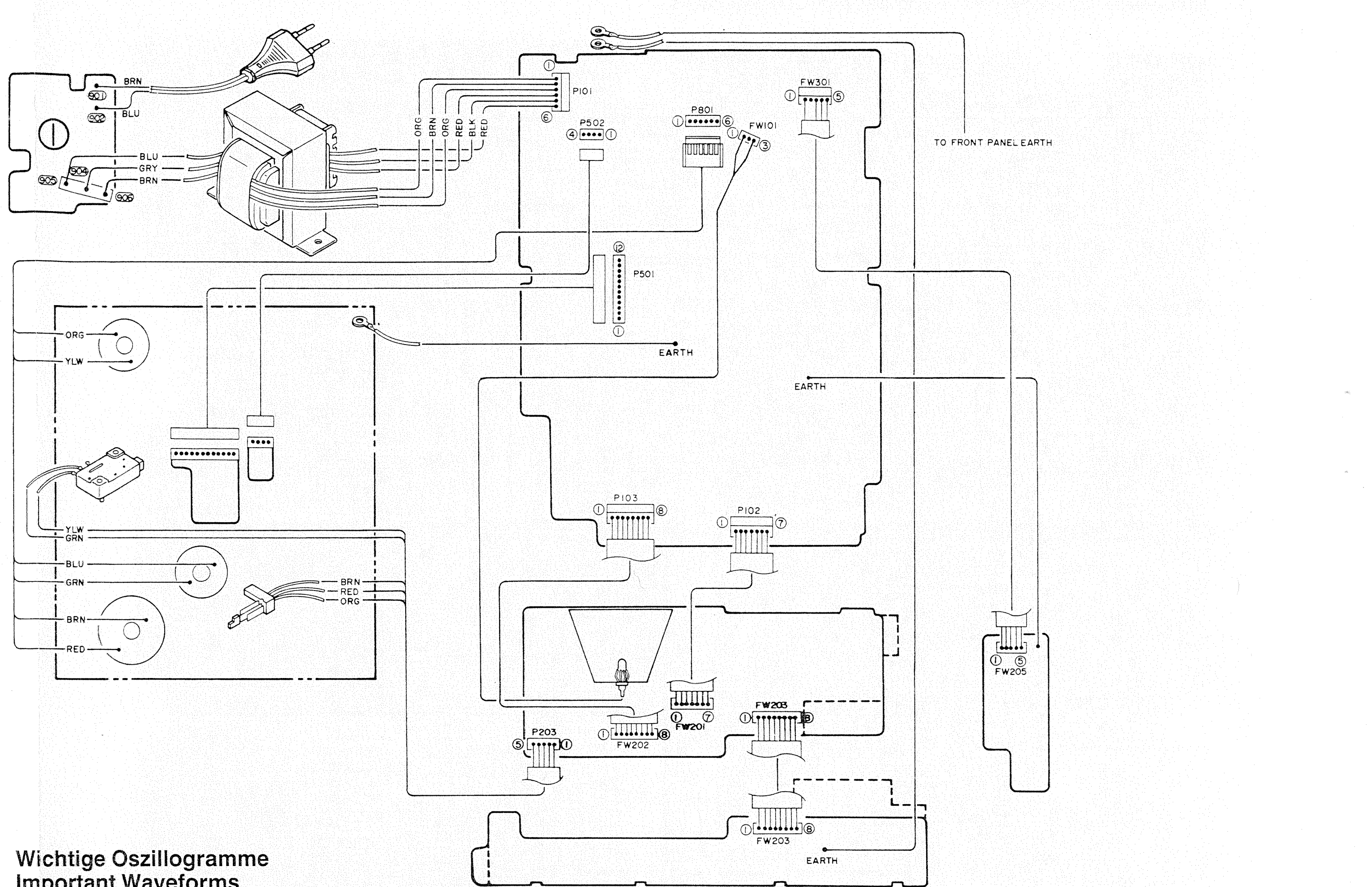
IC281/307/503/504/851
IC402 Dual op. Amp.


M5218L
A
B
OUT A
−IN A
+IN A
−Vcc
+IN B
−IN B
OUT B
Vcc

IC801 Power op. Amp.


STA341M
1
2
3
+Vcc
IN1
IN2
IN3
−Vcc
OUT3
OUT2
OUT1

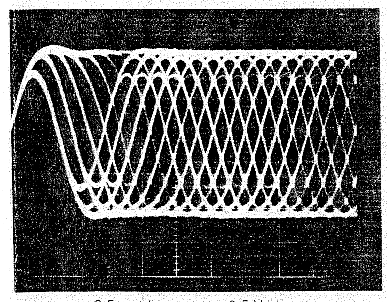
Verdrahtungsplan · Schema di cablaggio · Wiring Diagram · Schéma d'interconnections


BRN
BLU
GRY
P101
ORG
BRN
ORG
RED
BLK
RED
P502
P801
FW301
FW101
TO FRONT PANEL EARTH
P501
EARTH
EARTH
ORG
YLW
YLW
GRN
BLU
GRN
BRN
RED
ORG
P103
P102
P203
FW202
FW201
FW203
FW205
FW203
EARTH

Wichtige Oszillogramme
Important Waveforms

1. **EFM-Signal** TP3 (Laser-Ausgangssignal vorverstärkt)
Standard eye pattern.

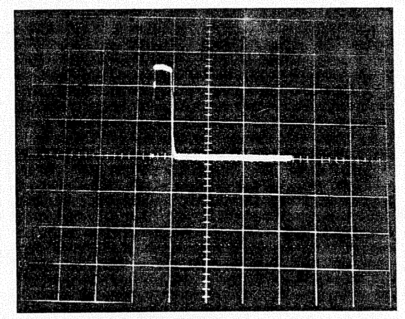
TP3 (RF)



0.5 μs/div 0.5 V/div

2. **Reset-Impuls** für Mikroprozessor
Reset signal of microcomputer

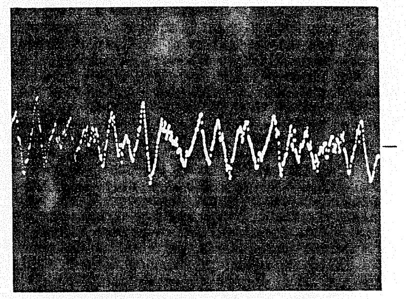
Q204 collector



0.5 s/div 2 V/div

3. **Focus-Servosignal** bei Wiedergabe (Periodendauer 0,2…1 ms)
Focus signal during play operates with period of about 0.2 – 1 ms.

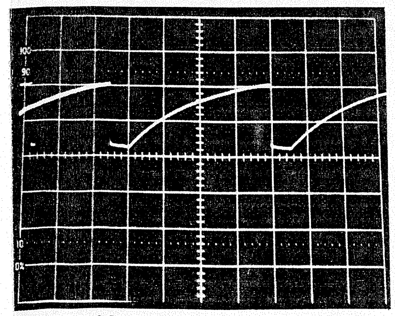
Q554 Emitter



1 ms/div 0.5 V/div

4. **Focus-Suchsignal** an C555. Nach Einschalten ohne eingelegte Platte wird die Objektivlinse auf- und abbewegt.
Focus search voltage. The lens is moved up and down by this voltage when the platter is loaded without a disc

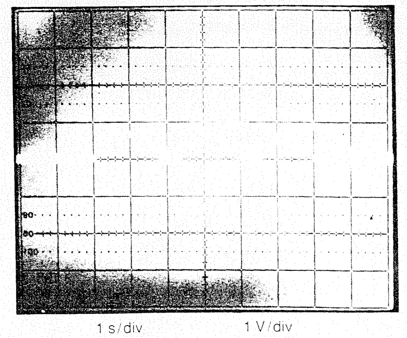
C555+



0.5 s/div 2 V/div

5. **Focus-Suchsignal** an Q554 Emitter. Nach Einschalten ohne eingelegte Platte.
Drive waveform during focus search.
Drive waveform of focus coil when the platter is loaded without a disc.

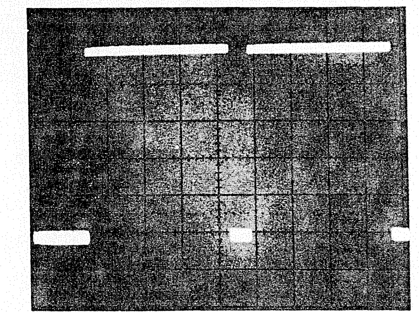
Q544 Emitter



1 s/div 1 V/div

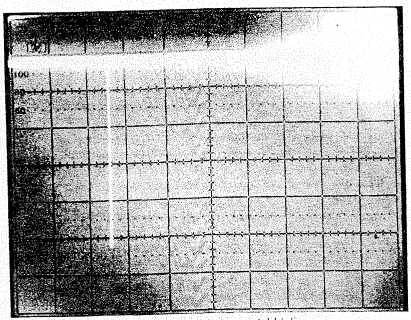
6. **Impulsspannung FCS** für Focus-Suchsignal von IC401.
Pulse for focus search voltage transmitted from IC401.

IC401 Pin 12



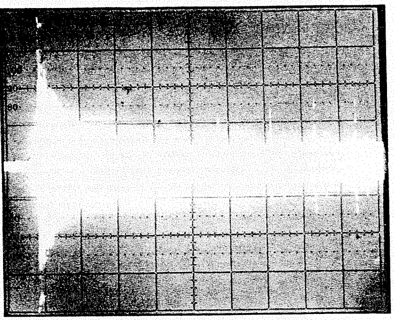
0.5 s/div 1 V/div

7. **Focus-Nulldurchgang FZC** bei Starten der Wiedergabe. Impulsdauer ca. 10 ms.
Focus zero-cross output. Pulse showing that focus output waveform has almost passed the zero point.
IC502 Pin 1



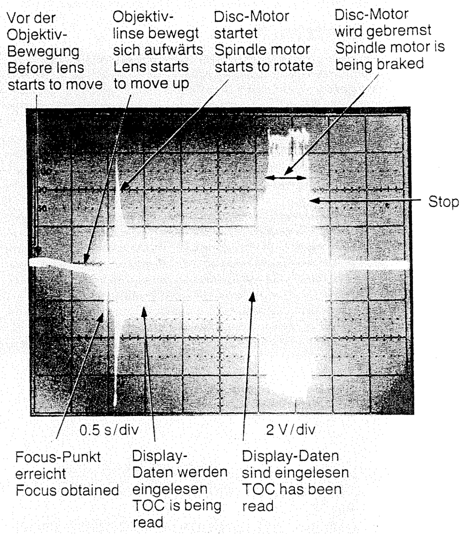
2 ms/div 1 V/div

8. **Focus-Servosignal** beim Starten der Wiedergabe. Nach Erreichen des Focuspunktes startet der Disc-Motor.
Focus drive waveform when focus has been finished and motor starts to rotate
Q554 Emitter

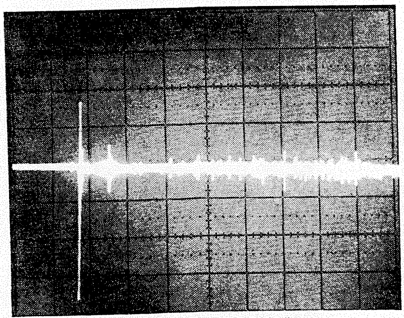


0.2 s/div 0.5 V/div

9. **Focus-Servosignal** Q554 Emitter bei Einlesen der Display-Daten bis zum Stoppen des Disc-Motors.
Waveform until TOC is read and spindle motor stops
Q554 Emitter

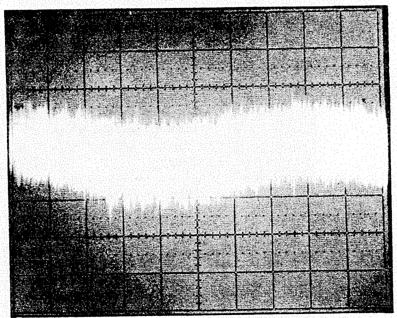


10. **Focus-Servosignal** bei Beginn der Wiedergabe. Große Amplitude bis Erreichen des Focus-Punktes. Danach kleine Amplitude im eingeschwungenen Zustand der Regelschleife.
Focus signal when a loaded disc starts to be played. Strong signal is output when focus starts to be obtained but it becomes of small amplitude when it enters in servo loop.
IC503 Pin 1



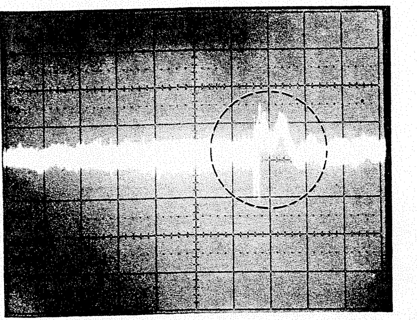
0.1 s/div 0.5 V/div

11. **Spur-Servosignal** bei Wiedergabe (Q501 Emitter oder Brücke W318)
Tracking waveform during normal play
Q501 Emitter



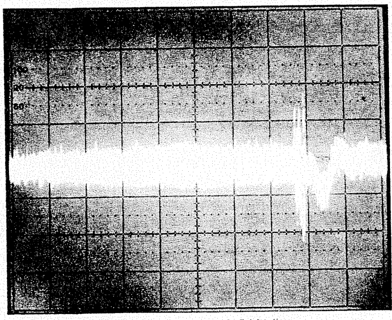
20 ms/div 0.5 mV/div

12. **Spur-Servosignal** bei Suchlauf vorwärts. Der Spurwechsel ist sichtbar.
Waveform of high speed search in forward direction. Output when track is jumped is visible.
TP2 (TE)



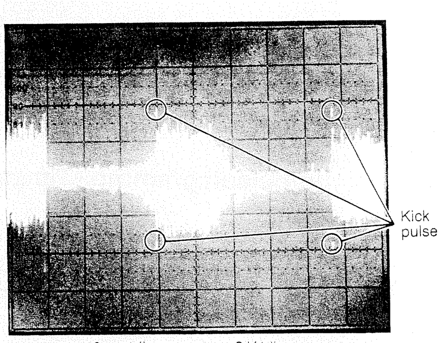
2 ms/div 0.5 V/div

13. **Spur-Servosignal** bei Suchlauf rückwärts.
Waveform of high speed search in backward direction.
TP2 (TE)



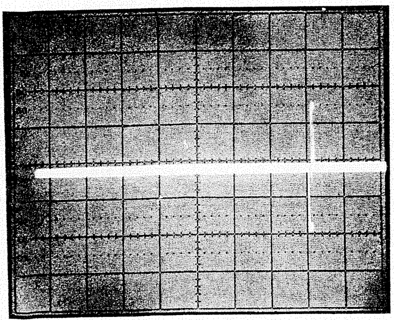
2 ms/div 0.5 V/div

14. **Spur-Servosignal** bei Suchlauf. Rauschpakete beim Überqueren der Spur.
Drive waveform during high speed search. Output such as noise is output when track is crossed.
Q501 Emitter



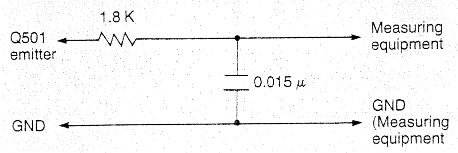
10 ms/div 2 V/div

15. **Spurwechsel-Impuls** bei Suchlauf vorwärts. (Tiefpaß zwischen Testpunkt und Oszilloskop schalten)
Kick pulse when searching. When advancing the track, waveform below is output.
Note: Insert the LPF shown below between the test point and the measuring equipment.
Q501 Emitter

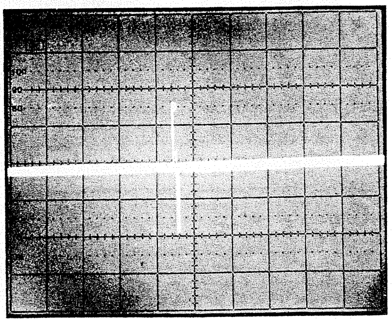


5 ms/div 0.5 V/div

LPF circuit



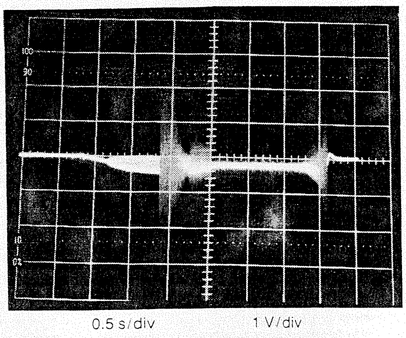
16. **Spurwechsel-Impuls** bei Suchlauf rückwärts. (Tiefpaß zwischen Testpunkt und Oszilloskop schalten)
Kick pulse when searching. When returning the track, waveform below is output.
Note: Insert LPF between test point and measuring equipment.
Q501 Emitter



5 ms/div 0.5 V/div

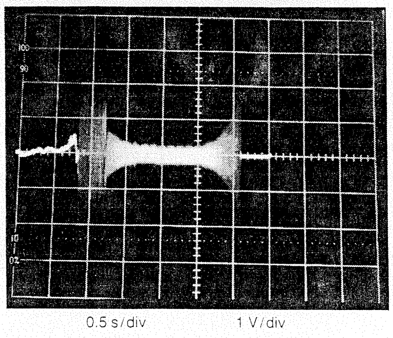
17. **Spur-Servosignal** nach Einlegen einer CD. Starten des Disc-Motors, Einlesen der Display-Daten und Stoppen des Disc-Motors.
Waveform when a disc is loaded. Shows until brake is operated after TOC has been read.

IC503 Pin 7



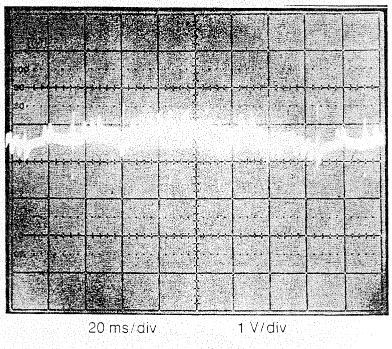
18. **Spur-Servosignal** nach Einlegen einer CD. Starten des Disc-Motors, Einlesen der Display-Daten und Stoppen des Disc-Motors.
Waveform when a disc is loaded. Shows until brake is operated after TOC has been read.

TP2 (TE)



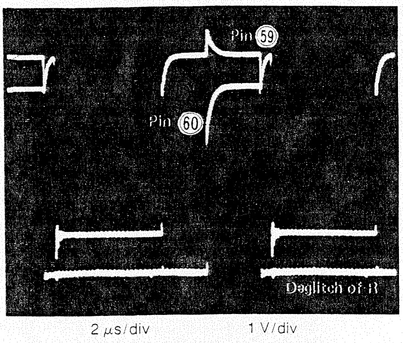
19. **Disc-Motor-Antriebsspannung** bei Wiedergabe
Spindle motor drive waveform during play

IC801 Pin 8



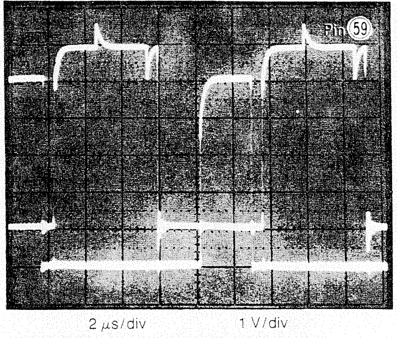
20. **L/R-Schaltsignal** IC302 Pin 59 für Demultiplexer und Deglitch-Signal R Pin 60.
L/R switching signal and deglitch signal of R. R deglitch signal (Pin 60) is input when switching signal (Pin 59) is at "H" level.

IC302 Pin 59, Pin 60



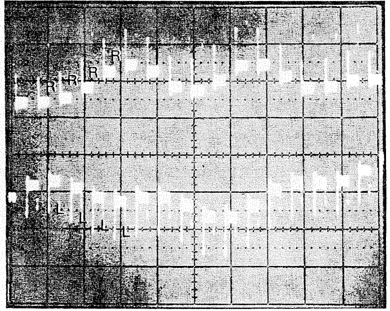
21. **L/R-Schaltsignal** IC302 Pin 59 für Demultiplexer und Deglitch-Signal L Pin 61.
L/R switching signal and deglitch signal of L. L deglitch signal (Pin 61) is input when switching signal (Pin 59) is at "L" level.

IC302 Pin 59, Pin 61



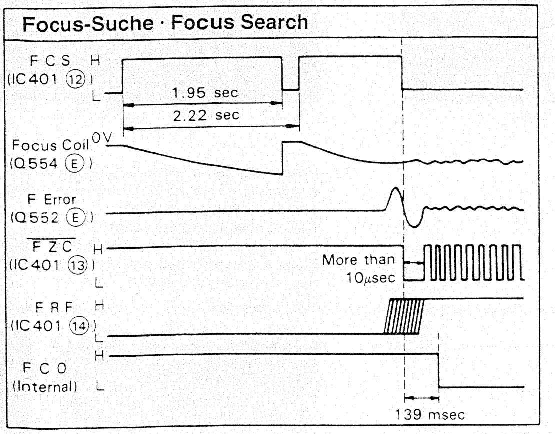
22. **Geschaltetes Audiosignal** (L/R-Zeitmultiplex) nach D/A-Wandlung.
AF signal switched after D/A.
Waveform showing that R and L are output alternately.

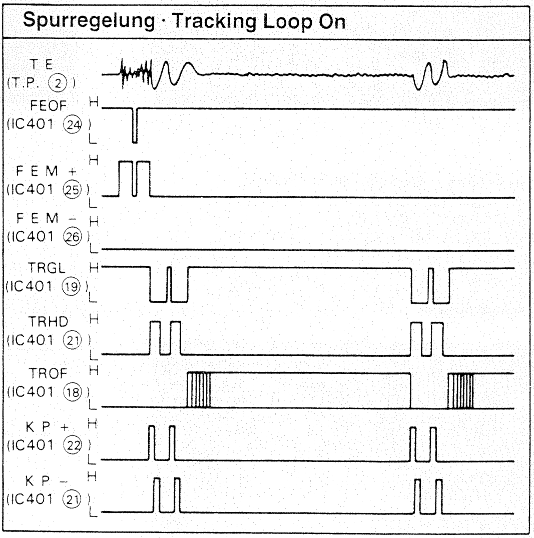
IC303 Pin 19



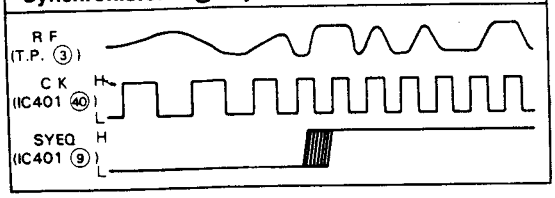
Anmerkung: Die Spannungen in Abb. 20 und 21 sind zur besseren Darstellung um 1 V gegeneinander versetzt.
Note: Photos 20 and 21 are shifted by 1 V for better visibility.

Impulsdiagramme · Timing charts

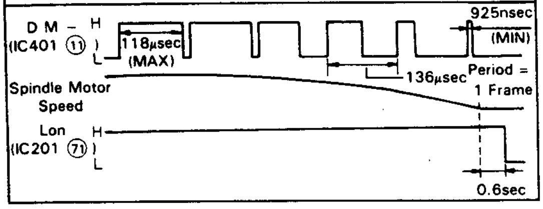

Focus-Suche · Focus Search
FCS H
(IC401 ⑫)
L
1.95 sec
2.22 sec
Focus Coil 0 V
(Q554 Ⓔ)
F Error
(Q552 Ⓔ)
F̄Z̄C̄ H
(IC401 ⑬)
L
More than 10μsec
FRF H
(IC401 ⑭)
L
H
FCO
(Internal) L
139 msec


Spurregelung · Tracking Loop On
TE
(T.P. ②)
FEOF H
(IC401 ㉔)
L
FEM + H
(IC401 ㉕)
L
FEM − H
(IC401 ㉖)
L
TRGL H
(IC401 ⑲)
L
TRHD H
(IC401 ㉑)
L
TROF H
(IC401 ⑱)
L
KP + H
(IC401 ㉒)
L
KP − H
(IC401 ㉑)
L

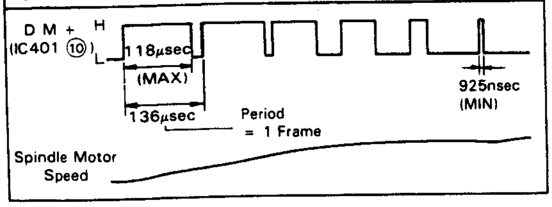
Synchronisierung · Sync. Pattern Search


R F
(T.P. ③)
C K H
(IC401 ㊵)
L
SYEQ H
(IC401 ⑨)
L

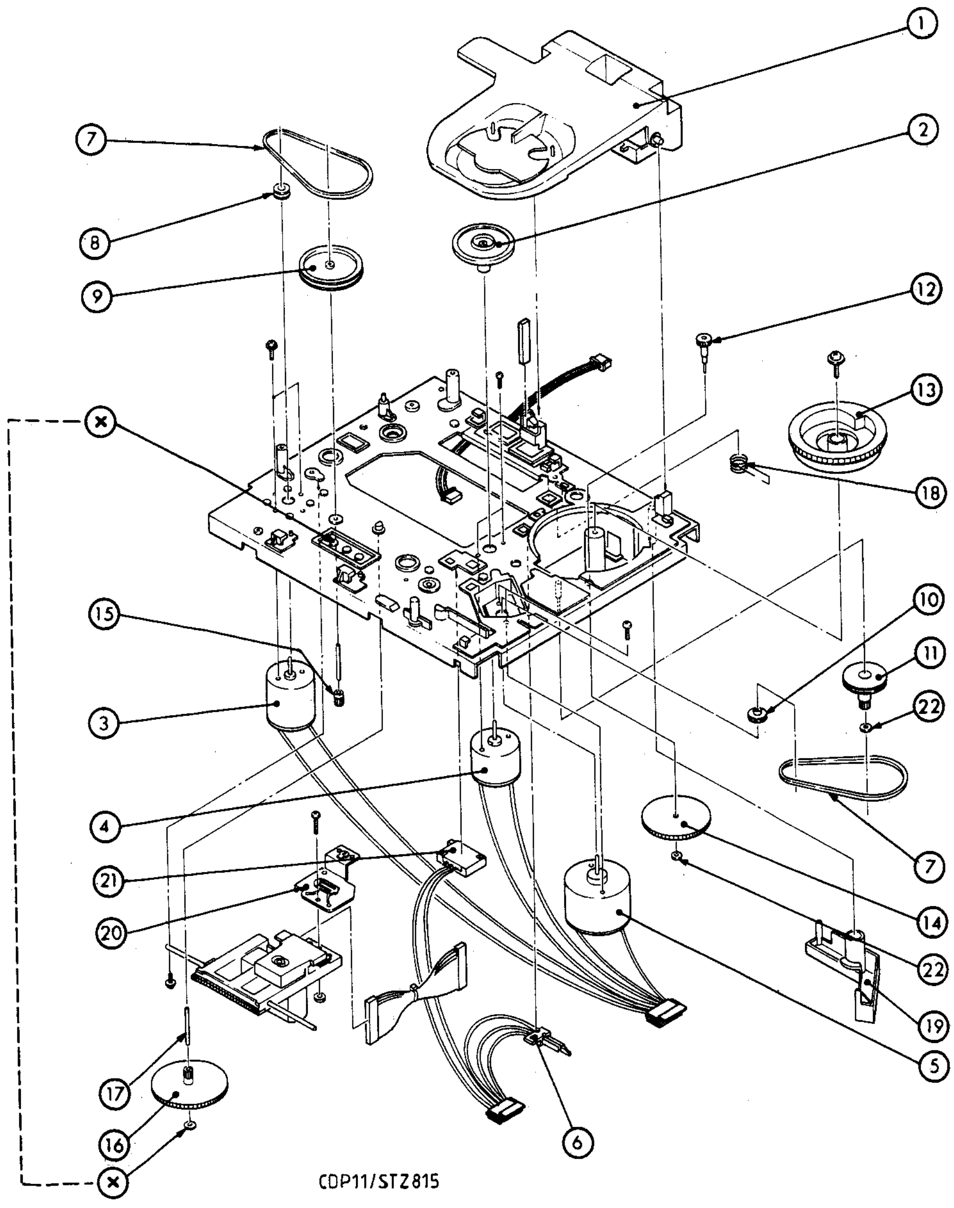
Disc-Motor Bremsung · Spindle Motor Brake


D M − H
(IC401 ⑪)
L
118μsec
(MAX)
925nsec
(MIN)
136μsec
Period =
1 Frame
Spindle Motor
Speed
Lon H
(IC201 ㉑)
L
0.6sec

Disc-Motor Start · Spindle Motor Start


D M + H
(IC401 ⑩)
L
118μsec
(MAX)
136μsec
Period
= 1 Frame
925nsec
(MIN)
Spindle Motor
Speed

Ersatzteillageplan · Dislocazione pezzi di ricambio · Spare parts position diagram
Plan de situation des pièces de rechange


①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
ⓧ
CDP11/STZ815

Ersatzteilliste · Lista ricambi · List of spare parts · Liste de pièces détachées

SABA CDP 11 HiFi 266 1

Pos.	No.		Bezeichnung	Description
			Verpackung	**Packing**
	4900 060 352	AN	Versandkarton	Packing Case
	4900 060 350	AH	Polster vorne	Cushion Front
	4900 060 351	AH	Polster hinten	Cushion Rear
			Zubehör	**Accessory**
	4900 031 420	AN	Cinchkabel	Cinch Cable
			Gehäuse	**Cabinet**
	4900 060 346	BE	Frontplatte	Front Panel
	4900 060 404	AP	Zierblende	Plate
	4900 060 368	AD	Taste Ein-Aus	Button Power
	4900 060 367	AE	Taste Öffnen-Schließen	Button Open-Close
	4900 060 365	AL	Tastensatz Suchlauf-Wiedergabe-Stop	Button Set Search Play-Stop
	4900 060 366	AE	Tastensatz Programm-Wiederholen	Button Set Program-Repeat
	4900 060 401	AT	CD-Halter	CD-Holder
	4900 060 402	AL	Blende	Plate
	4900 060 349	BA	Gehäuseabdeckung	Cabinet Cover
	4900 060 343	AC	Gehäusefuß	Foot
	4900 060 419	AC	Dämpfungsgummi f. CD Laufwerk	Floating Rubber f. CD Mechanism
			Chassis-Netzteil	**Chassis-Power-Supply**
	3551 001 000	AK	Netzkabel	Power Cord
	4900 026 328	AF	Zugentlastung	Cord Stopper
	4900 060 347	BH	Netztrafo	Power Transformer
	4900 060 371	AN	Netzschalter SW 901	Power Switch
	4900 060 407	AI	Schaltstange	Push Shaft
	4900 060 376	AH	Abdeckung	Cover
	4900 060 420		L 901 Spule	L 901 Coil
			CD Laufwerk	**CD Mechanism**
			siehe Explosionszeichnung	see exploded view
1	4900 060 414	AN	CD-Andruckarm	CD-Holder Arm
2	4900 060 355	AG	Plattenteller	Turntable
3	4900 060 344	BA	Motor M 801	Motor Feed
4	4900 060 345	BC	Motor M 851	Motor Spindle
5	4900 060 378	AY	Motor M 701	Motor Loading
6	4900 060 363	AK	Federsatz SW 210	Leaf Switch open-close
7	4900 060 388	AG	Riemen	Belt
8	4900 060 380	AC	Riemenscheibe	Pulley
9	4900 060 342	AE	Laufrad	Pulley
10	4900 060 379	AC	Riemenscheibe	Pulley
11	4900 060 341	AC	Laufrad	Pulley
12	4900 060 354	AC	Getrieberad	Gear
13	4900 060 348	AK	Getrieberad	Gear
14	4900 060 356	AC	Getrieberad	Gear
15	4900 060 357	AC	Getrieberad	Gear
16	4900 060 358	AE	Getrieberad	Gear
17	4900 060 417	AD	Achse	Shaft
18	4900 060 415	AC	Drehfeder	Spring
19	4900 060 353	AF	Hebel	Lever
20	4900 060 416	AK	Halterung	Holder
21	4900 060 372	AK	Mikroschalter SW 211	Micro Switch Rest
22	4900 025 722	AA	Sicherungsring	Ring

SABA CDP 11 HiFi 266 2

Pos.	No.		Bezeichnung	Description
			Anzeige-Bedienteil-Platine	**Display Operation Board**
	4900 060 387	AY	Anzeige	Display
	4900 060 386	AK	Lampe	Pilot Lamp
	4900 060 403	AG	Folie	Film
	4900 060 359	BN	IC 201 UPD7514G-209-12	
	4900 029 369	AE	Q 204 2SA933S	
	4900 028 123	AD	D 203...207 1SS133HV	
	4900 029 649	AG	R 204 Poti 4,7 K	
	4900 060 364	AG	SW 201...209 Mikroschalter	SW 201...209 Micro Switch
			Kopfhörerbuchsen Platine	**Head Phones Jack Board**
	4900 060 395	AM	IC 281 M5218L	
	4900 060 370	AH	P 281 Kopfhörerbuchse	P 281 Head Phones Jack
			Netzschalter Platine	**Power Switch Board**
	4900 060 371	AN	SW 901 Schalter Ein-Aus	Switch On-Off
	4900 060 376	AH	Abdeckung	Cover
			Grund Platine	**Main Board**
	4900 060 397	AT	IC 101 NJM78M05A	
	4900 060 389	BC	IC 301 HM6116ASP-20	(S-RAM)
	4900 060 360	CA	IC 302 YM2601K	
	4900 060 398	BN	IC 303 PCM54HP	
	4900 060 384	AP	IC 304 BU4053B	
	4900 060 385	BL	IC 305,306 BX7347C	
	4900 060 361	CF	IC 401 YM3811	
	4900 060 394	AM	IC 402 M5209L	
	4900 060 396	AO	IC 501 NJM072S	
	4900 030 087	AO	IC 502 NJM2901N	
	4900 060 395	AM	IC 503,504,851 M5218L	
	4900 060 399	AO	IC 801 STA341M	
	4900 060 383	AI	Q 101 2SD1505E,F	
	4900 028 731	AG	Q 103 2SC2060Q,R	
	4900 060 381	AG	Q 104 2SA934Q,R	
	4900 029 369	AE	Q 351,506,553,651 2SA933R,S	
	4900 050 703	AG	Q 401,451,503...505,552,803 2SD1302S,T	
	4900 021 672	AI	Q 501,554 2SD400MP-E,F	
	4900 060 382	AI	Q 502,555 2SB544MP-E,F	
	4900 028 798	AE	Q 601 2SC535B,C	
	4900 001 997	AG	Q 602 2SC458C,D	
	4900 027 409	AF	Q 603 2SA1029C,D	
	4900 029 366	AD	Q 652,653 2SC1740R,S	
	4900 030 228	AK	D 101 S1VB20	
	4900 045 171	AE	D 102 S1WB(A)20	
	4900 060 392	AE	D 103,104 MTZ13C	
	4900 060 391	AE	D 105 MTZ10C	
	4900 030 118	AB	D 351,352,701 1SS133	
	4900 060 393	AE	D 401 MTZ5,1JB	

SABA CDP 11 HiFi 266 3

Pos.	No.		Bezeichnung	Description
	4900 060 400	AL	D 402 SVC321-AWAA2	
	4900 060 410	AH	L 401	
	4900 060 374	AR	QX 301 (QS 301) Quarz 8,6436 MHz	
	4900 060 411	AG	CP 101, CP 102 Sicherung ICP-N20 T 104	
	4900 060 412	AD	RA 601 4 x 4,7 K	
	4900 057 405	AB	R 101,102 10 Ohm/5%/1W	
	4900 052 886	AE	R 505,521 Poti 4,7 K	
	4900 052 901	AE	R 509 Poti 220 K	
	4900 052 902	AE	R 555 Poti 100 K	
	4900 060 362	AG	P 301 Cinch Buchsen kpl.	P 301 Cinch Jack cpl.

A = Austauschteil R = Reparatur-Umtauschteil (kein Vorausersatz möglich)

⚠ Sicherheitsbauteil **Bei Ersatz nur Originalteil verwenden**	**⚠ Componente di sicurezza** **in caso di sostituzione usare componente originale**	**⚠ Safety part** **When repairing, use original parts only**	**⚠ Pièce de sécurité** **N'utilisez que les pièces d'origines**
Änderungen vorbehalten!	Con riserva di modifiche!	Subject to modification without notice!	Modifications réservées!

Übrigens: der schnellste Weg
für Ersatzteil-Bestellungen:
Btx ∗ 44100811 #
Zugang für jeden Fachhändler nach vorheriger
Anmeldung möglich.